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2013

## Cure for the Romantic Virus: An Introduction to Principles of Metrical/Mathematical Analysis

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### Recommended Citation

Ibes, Willem (Wim), "Cure for the Romantic Virus: An Introduction to Principles of Metrical/Mathematical Analysis" (2013). *Music Faculty Publications*. 6.

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## **WILLEM IBES**

### **EXTIRPATING THE ROMANTIC VIRUS**

#### **An introduction to principles of metrical / mathematical analysis**

During the last century and a half, the “Romantic Virus” has become solidly entrenched in performances of music by 18<sup>th</sup>, 19<sup>th</sup> and even 20<sup>th</sup> century composers.

Simply stated, it is the compulsion to always play across the bar-line or into the next strong (er) beat and to change 6/8 measures from a trochaic to a iambic meter (the first movements Mozart’s sonata in A major and Beethoven’s Opus 101 are just two examples). It mars – actually makes unintelligible – almost all performances of music of the baroque, and classical era. Romantic composers of course frequently do go across the bar line, but certainly not exclusively so. Schubert, Chopin. Brahms and countless others as Fauré, Debussy and Ravel use this romantic trait very judiciously.

It has become standard practice in 19<sup>th</sup> century and later editions to anachronistically apply contemporary dynamic, phrasing and articulation markings to earlier periods. Using especially the latter two lock-stock-and-barrel for previous musical periods is one of the most pervasive and gravest errors a performer can make. Practically all non-Urtext editions corrupt the texts of previous periods – with the blessings of prominent music theorists – and perpetuate this epidemic.

**Below follows a brief outline of a methodology I use that may provide a cure.**

This methodology consists of three main, essential, elements, which differentiates it from other generally accepted analytical procedures. It is based on:

- (1) a metrical-proportional understanding of the motif,
- (2) proper identification of the motif, and
- (3) association of the motif with a text and a meaning.

(In music, the “motif” is what constitutes the basic idea, the “Eidos”, the “Gestalt” of a composition. The four-note “victory” motif of the opening of Beethoven’s Fifth Symphony is a famous example. The whole first movement is derived from that pregnant idea.)

First, I use a mathematical manner of analysis that concentrates primarily on the proportional-metrical aspects of the music: the length of the motif and its placement within the measure, that is, whether it starts on a strong(er) or weak(er) beat. The length of the motif can, of course, be altered by the devices of diminution, inversion and augmentation, and it will come as no surprise that Beethoven’s late sonatas with their wealth of counterpoint exhibit these traits in abundance.

Second, I believe that the generally accepted understanding of what constitutes a motif has been the cause of misunderstanding the musical discourse of especially the eighteenth and early nineteenth centuries.

About forty years ago, after having become acquainted with the Ur-text editions of the Scarlatti, Beethoven, and Mozart sonatas and the larger works of Bach, I began to wonder about the easier compositions by these masters that I taught to my early and intermediate piano students. For example, all the popular editions of the famous Bach Minuet in G major (which pianist has not played it?) insert a slur starting from the first measure into the first beat of the second measure (see Example 1). This always seemed to make perfect sense but what began to bother me were the last two quarter notes in the second measure. These repeated G's, didn't seem to have – what only much later I would begin to think of as – any *meaning*. Over the course of many years I became more and more disturbed by these two “cliff-hangers”, as well as by the phrasing of the left-hand figures in, e.g., mm 13 and 14, which were also always slurred *across* the bar line (see Example 2):

**Example 1.** Bach Minuet, mm. 1-4



**Example 2.** Bach Minuet, mm. 13-16



I felt the same uneasiness when teaching the equally famous Beethoven Sonatina in G Major (see Example 3). The phrasing of the first measure into the first beat of the second seemed sensible, but the last three beats of the measure, though sounding pleasant enough, left me hanging in the air, exactly as the two G's had in Bach's Minuet.

**Example 3.** Beethoven Sonatina, mm. 1-2



After deliberating internally over many years, I started to correct my students' copies. I had come to understand that, almost without exception (and always clearly marked), the motifs and motif-syllables do not cross the bar line but are contained within it. Of course, I should have checked editions like Henle's of the Beethoven *Klavierstücke* for these shorter works, but I simply stayed with what I myself had been taught and taught in turn for forty years. One might think that finally having Bach's and Beethoven's Ur-text editions in hand would have made me see the light, but the virus that infects the work of us all unfortunately remained undetected and unfortunately, the fingerings that the good editors supplied, often perpetuate the misunderstanding (see i.a. an earlier Henle Ur-text of Bach's famous C Major Invention).

What is this virus that has stealthily burrowed its way into our interpretations of Baroque, Classical, and a good number of later composers? It is simply the almost irresistible urge to fall into the cadence, to always play across the bar line or into the stronger beat of the measure (in a 4/4 measure into the third beat, in a 6/8 measure into the fourth beat), to always want the dominant to immediately be "redeemed" – I call it "instant gratification" – by the tonic.

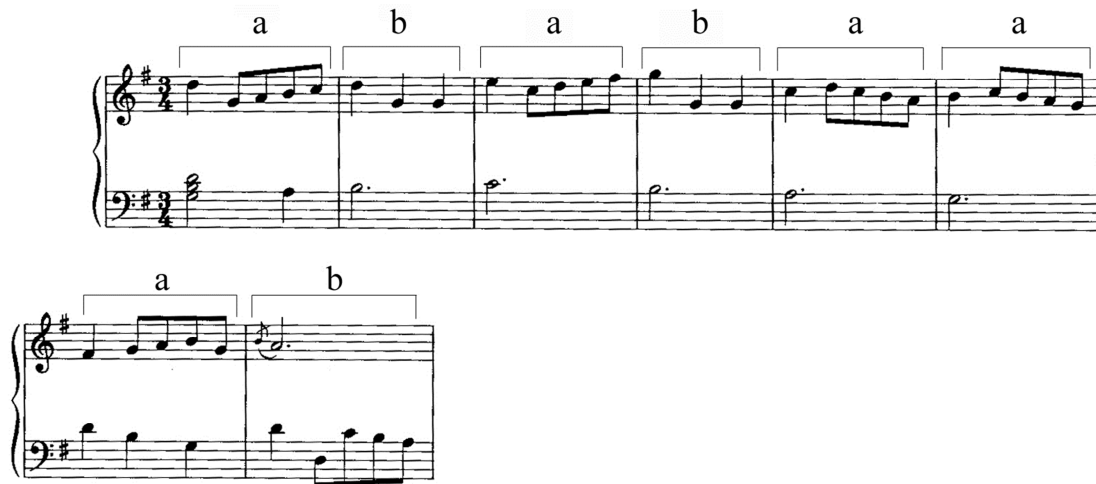
On the contrary, the motif of Bach's Minuet in G Major (examples 4 and 5) consists of two syllables, "a" and "b", two perfectly symmetrical measures: in the first measure (leaving out the passing notes) three quarter notes, D G B; in the second measure, D G G. The relation between these two "syllables" which together constitute the complete motif, is one of thesis and arsis, of down-beat and up-beat.

**Example 4.** Bach Minuet, mm. 1&2 (simplified)



It is essential that these two parts be properly identified in order to avoid the meaningless “cliff-hangers.” The structure of the first half of the musical sentence (antecedent) thus becomes clear: a+b; a+b; a; a; a+b (see Example 5).

**Example 5.** Bach Minuet, mm. 1-8



This articulation of the motif and its syllables remains consistent throughout the piece (Example 6):

**Example 6.** Bach Minuet, mm. 13 - 14



Beethoven does not differ from Bach in this respect. His early Sonatina in G Major has a structure that is identical to the Bach Minuet, a structure that is difficult to pin down without a clear identification of the motif. The motif is composed again of two symmetrical syllables a and b. (Example 7 gives the slurring the way Beethoven wrote it, not the “corrected” version of a presumptuous editor.)

**Example 7.** Beethoven Sonatina, mm. 1 - 2





The sentence (a musical period as in Bach's Minuet) reads: a+b (mm. 1,2); a+b (mm. 3,4), a (m. 5); a (m. 6); a+b (mm. 7,8).

What, after all, makes music intelligible? In other words, how does music express *meaning*? Not very different from the way language does. As a book consists of chapters that consist of paragraphs constructed out of individual sentences, themselves built out of words, syllables, and individual letters, so a symphony, sonata, concerto, or quartet consists of movements which are divided into sections, which in turn consist of individual (musical) sentences, themselves made up out of motifs, motif-members (motif-syllables) and individual notes. Here, however, the comparison stops. Whereas language needs many words to make a sentence, in music, a single motif and its permutations almost always suffice to make a (musical) sentence, a movement and sometimes, as in the case of Beethoven's Opus 101 and 111, a whole multi-movement sonata.

An obvious requisite for meaning, or intelligibility on the most elemental level, in language as well as music, is that letters (notes), words (motifs), and sentences (phrases or musical sentences) are grouped correctly. A word like *min ceme at* makes no sense, whereas *mincemeat* is clear. Well, it is my contention that for almost two centuries now we have made and continue to make mincemeat of Beethoven's compositions, as well as the compositions of a host of other composers.

If I were to write, "Thesa Turd aynig htsh, Owha sbe enabi! gsu cc es swi ththe Enti. recomm unity," for good measure adding in some strategically misplaced capital letters, commas, and periods, not a soul would understand that I was commenting on the success of the Saturday night show. All the right letters are there, but where is the *meaning*?

That is exactly Beethoven's exasperated cry to Karl Holz when he writes in utter frustration (letter from Baden, dated August 1825): "The notes are all right – only understand my meaning rightly." (1) In the same letter Beethoven continues: "The slurs must stand just as they are! It is not a matter of indifference whether you

play  or  . Mind you, this comes from an authority, so pay attention. I have spent the entire morning and the whole of yesterday afternoon correcting these two movements, and am quite hoarse with cursing and stamping." (1) and (2) .

I am afraid poor Beethoven would completely lose his voice were he to return now, after two centuries, and try to grasp how we could possibly, and so utterly, have deformed his thought and obliterated the meaning of his music.

“Sorry, Beethoven, it cannot (and should not!) be done” say authors as Tovey, Krebs and E. Bardura-Skoda. Beethoven’s outburst to a hapless copyist comes to mind: “Stupid conceited ass of a fellow!” And further “Correct your mistakes made through ... arrogance ... and stupidity. That is more fitting than trying to teach me, which is exactly as if the pig wanted to teach Minerva.” (2)

What Beethoven asks us to do is indeed not easy, especially if we have become infected. There is, at the beginning of the Trio of Opus 101, one single measure that asks for the almost impossible: to play the double dotted quarter note, followed by the two thirty second notes and NOT run into the third beat (example below). Maybe I was exaggerating when I figured out it had taken me a hundred hours to avoid doing that, but it must have been fifty at least – and that for about a second’s worth of music! I don’t even want to mention the first page of that sonata which asks for “the impossible” over and over.



May I repeat, on the most elemental level, *meaning* depends, quite simply, on how we group the letters into words, separate one word from another, where we start and where we end a sentence. If my name is Wim Ibes (pronounced E-bes) and I write Wimi Bes or WimI Bes I have changed only the grouping of the letters in these two words, but, as Beethoven so bitterly complained, the meaning is gone.

What then constitutes the motif, the Gestalt, the Eidos of a composition, and how does a composer work with that basic idea? Fortunately Beethoven, especially late-Beethoven, gives us some solid hints by generously supplying his scores with slurs. Those slurs are phrasing (not: legato) slurs that delineate the motif as well as the (musical) sentence. We can argue endlessly about one thousand details, but when a basic understanding of the motif is lacking, all the rest becomes guesswork. The rules of punctuation apply to music as much as to language; colons, semi-colons, question and exclamation marks are not a luxury but a necessity. In music, these necessary rules are put into practice by “**silences of articulation**,” a term explained in 17<sup>th</sup> and 18<sup>th</sup> century treatises and one that we would do well to re-introduce into our musical vocabulary. (3)

To recapitulate, we can say that the correct delineation of the motif, the Gestalt or Eidos, in conjunction with a mathematical-proportional approach, provides the blue-print of a composition. Leaving out (initially) all the other elements of music such as melody, harmony, dynamics and even rhythm (but most definitely including the placement within the measure) it uncovers for us the fundamental genetic material, the DNA of the work. In simple pieces like the

Beethoven Sonatina this method allows us to easily follow the musical discourse. In complex works, however, we need more precise labeling than is made possible by mere letters of the alphabet. The third of my three main analytical devices is now called for.

Already in an earlier analysis of the piano sonata Opus 101 I had – unwittingly at the time – followed Beethoven’s suggestion when he advises to put (underlay) sometimes a fitting text under a difficult-to-understand passage and to sing it: “...rieth ferner bisweilen passende Worte einer streitigen Stelle unterzulegen und sie zu singen....” (4) A text or motto which correctly imitates the metrical structure of the motif (focusing mainly on its metrical-mathematical properties) enables us to track all the peregrinations and transformations of that motif.

The text I applied to the first two measures of Opus 101 was: “Du, du, liebste mein”; “You, you, Love of mine.”

The text was not ideal, but it did enable me to understand the first sentence as a musical period, 25 measures in length, with an antecedent of 4 measures and an ever so irregular consequent of 21 measures; most importantly it made me realize that the whole sentence (and actually the whole sonata) grows organically out of the motif contained in the two opening measures, and that there is only one “theme”, not two or three as some analysts have proposed. That motto applies to each of the four voices (this is polyphony!), but here I confine myself to the soprano.



# Sonate

Op. 101

Ludvig van Beethoven

The image displays a musical score for a piano and voice. It consists of three systems of staves. Each system has a piano part (grand staff) and a vocal line. The key signature is A major (three sharps) and the time signature is 8/8. The lyrics are written above the vocal line.

System 1:  
Vocal: You, You, Love of Mine. You, You, Love of Mine  
Piano: Accompanying the vocal line with chords and moving lines in both hands.

System 2:  
Vocal: You, You, Love of Mine You, You, You, You,  
Piano: Continues the accompaniment, with a measure rest in the vocal line at the start of the system.

System 3:  
Vocal: Love of Mine Love of Mine You, You, Love of Mine.  
Piano: Continues the accompaniment, with a measure rest in the vocal line at the start of the system.

Of course, everything fell perfectly into place once I had decoded the true “motto” Beethoven had in mind: DO RO THE A:

# Sonate

Op. 101

Ludvig van Beethoven

The image displays a musical score for a song titled "Sonate Op. 101" by Ludwig van Beethoven. The score is written for voice and piano. The key signature is two sharps (F# and C#), and the time signature is 6/8. The lyrics are "Do Ro The - a." repeated throughout. The score is divided into three systems, each with a vocal line and a piano accompaniment. The first system starts with the vocal line and piano accompaniment. The second system begins with a measure number of 5. The third system begins with a measure number of 9. The piano accompaniment features a steady eighth-note pattern in the right hand and a more complex, syncopated pattern in the left hand.

The complete analysis of Opus 101 as well as of Opus 110 and Opus 111 according to these metrical/ mathematical principles may be found elsewhere on my Web site. In a lighter vein, let me conclude this brief introduction with a text I applied to the famous Bach Minuet. I believe that this text comes quite close to express the content of this little work but my main intent of course is to show how the motif is to be delineated as well as the structure of the whole.

## Minuet

From the notebook of  
Anna Magdalena Bach

Come will you Dance with me Come will you Dance with me

Come will you Come will you Come will you Dance with me.

Shows correct phrasing

**Come will you // Dance with me? (NOT: Come will you dance // With me!!)**

### Notes

- (1) Goldsmith, Harris. Beethoven: The Late Quartets. Booklet. Budapest String Quartet. Columbia Records, 1962. Beethoven's letter to Karl Holz can also be found in The Letters of Beethoven, translated and edited by Emily Anderson (New York: St. Martin's Press, 1961) Vol. III, pages 1241-42. The translations vary.
- (2) Barth, George. The Pianist as Orator: Beethoven and the Transformation of Keyboard Style (Cornell, NY: Cornell Press, 1992). See especially 81-120.
- (3) Goldsmith, Booklet. Also see Anderson, Vol. III, 1242.
- (4) A wealth of information is given in George Houle's Meter in Music, 1600-1800: Performance, Perception, and Notation (Bloomington: Indiana University Press, 1987). Perhaps the most lucid description can be found in Father Engramelle's "La tonotechnie" (1775), with its minute and succinct description of the "silences of articulation." See especially pages 110-23.

(5) Schindler, Anton. Biographie von Ludwig van Beethoven. (Münster: Aschendorff, 1871) 236-37, my translation. Schindler's biography has been translated into English, Beethoven As I Knew Him (New York: W.W. Norton, 1972).  
Anderson, Letters, II, 882-84.